

Application Number 10/657,867
Amendment dated October 25, 2006

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Amendments to the Claims:

Please cancel claims 1-20.

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of claims:

1-20. (Cancelled)

21. (Currently Amended) A bipolar transistor comprising:

a semiconductor substrate of a first conductivity type;

a collector region of a second conductivity type, which is defined by first and second isolation regions on the semiconductor substrate;

a first base semiconductor layer of the first conductivity type formed of a silicon germanium (SiGe) layer, which extends across the upper surface of the collector region to the upper surface of the first and second isolation regions;

an emitter region of the second conductivity type formed on the first base semiconductor layer to contact the first base semiconductor layer in a region which is defined by emitter insulating layers formed on the first base semiconductor layer;

second base semiconductor ~~layers~~layer patterns of the first conductivity type formed of a silicon layer, which is formed on ~~[[the]]~~ portions of the first base semiconductor layer except for ~~[[the]]~~ portions of the first base semiconductor layer having the emitter region and the emitter insulating layers;

base ohmic ~~layers~~layer patterns formed on the second base semiconductor layers;

an emitter electrode formed on the emitter region;

base electrodes formed on the second base semiconductor layers at both sides of the emitter electrode;

first and second insulating ~~layers~~layer patterns formed between the first and second isolation regions, respectively, and the first base semiconductor layer, under the base electrodes; and

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first and second silicon layerslayer patterns formed between the first and second insulating layerslayer patterns, respectively, and the first base semiconductor layer.

22. (Currently Amended) The bipolar transistor of claim 21, wherein the second base semiconductor layerslayer patterns are formed of an epitaxial growing layer.

23. (Previously Presented) The bipolar transistor of claim 21, wherein the first conductivity type is p-type and the second conductivity type is n-type.

24. (Currently Amended) The bipolar transistor of claim 21, further comprising first selectively ion implanted collector (SIC) regions of the second conductivity type, which are formed at portions near the surface of the collector region and adjacent to the first and second isolation regions.

25. (Previously Presented) The bipolar transistor of claim 24, further comprising a second SIC region of the second conductivity type, which is formed in a portion of the collector region under the emitter region.

26. (Currently Amended) The bipolar transistor of claim 21, wherein the base ohmic layerslayer patterns are formed of metal silicide.

27. (Currently Amended) The bipolar transistor of claim 26, wherein the base ohmic layerslayer patterns are formed of one of titanium silicide and cobalt silicide.

28. (Currently Amended) The bipolar transistor of claim 21, wherein the first and second insulating layerslayer patterns are formed of one of oxide layers and nitride layers.